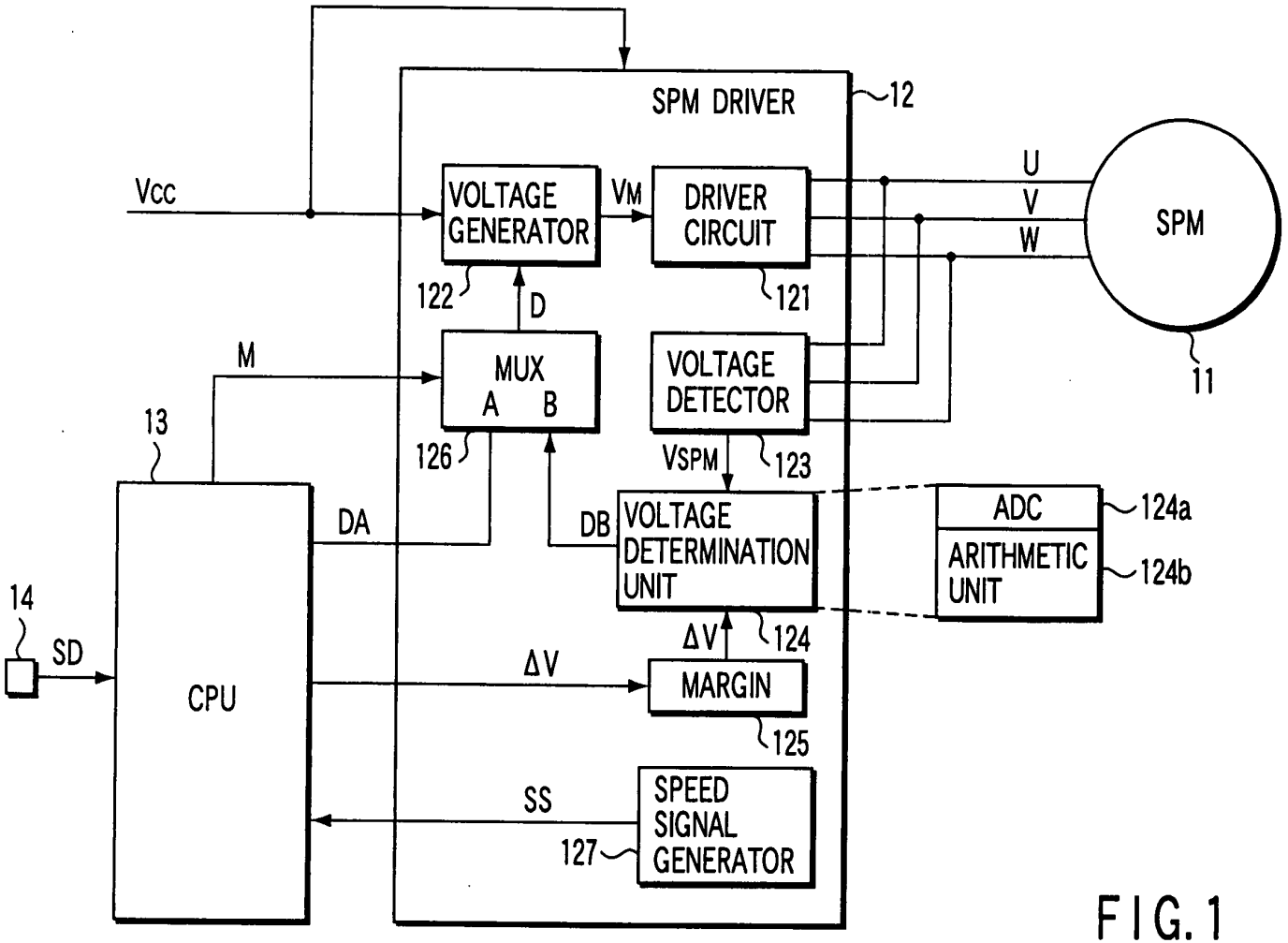
SPM DRIVER
12
Vcc
VOLTAGE GENERATOR
VM
DRIVER CIRCUIT
U
V
W
SPM
11
122
D
121
M
MUX
A B
VOLTAGE DETECTOR
13
126
VSPM
123
DA
DB
VOLTAGE DETERMINATION UNIT
ADC
124a
ARITHMETIC UNIT
124b
14
SD
CPU
ΔV
124
ΔV
MARGIN
125
SS
SPEED SIGNAL GENERATOR
127

FIG. 1

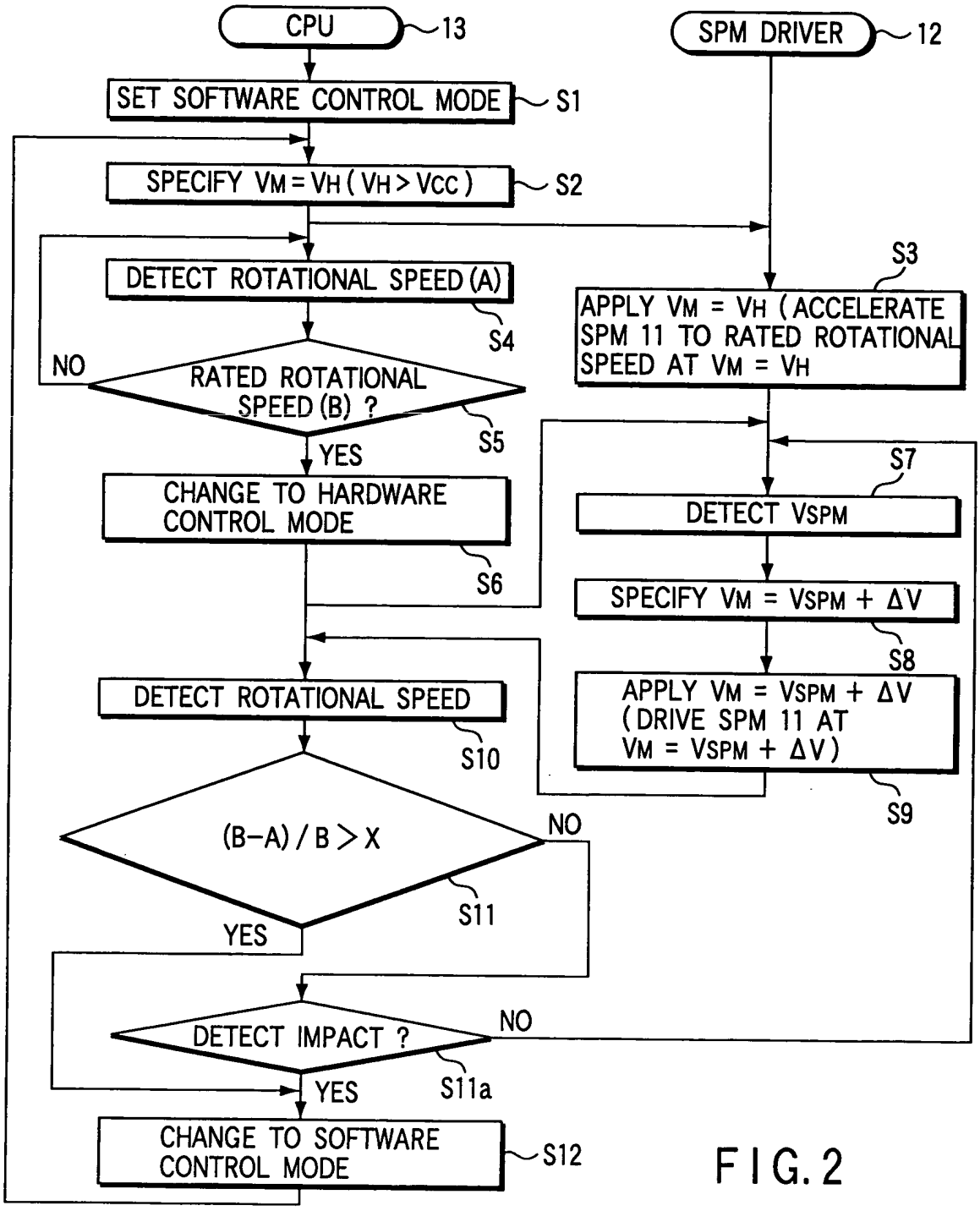
CPU
13
SPM DRIVER
12
SET SOFTWARE CONTROL MODE
S1
SPECIFY VM = VH (VH > VCC)
S2
DETECT ROTATIONAL SPEED (A)
S4
S3
APPLY VM = VH (ACCELERATE SPM 11 TO RATED ROTATIONAL SPEED AT VM = VH
NO
RATED ROTATIONAL SPEED (B) ?
S5
YES
CHANGE TO HARDWARE CONTROL MODE
S6
S7
DETECT VSPM
SPECIFY VM = VSPM + ΔV
S8
APPLY VM = VSPM + ΔV (DRIVE SPM 11 AT VM = VSPM + ΔV)
S9
DETECT ROTATIONAL SPEED
S10
(B−A) / B > X
NO
S11
YES
DETECT IMPACT ?
NO
S11a
YES
CHANGE TO SOFTWARE CONTROL MODE
S12

FIG. 2